

REMARKS

Claims 13-16 and 18-27 are pending in this application. By this Amendment, claim 13 has been amended to incorporate the features of claims 15 and 16. Claim 27 has been amended to correct claim dependency. Claims 15-16, and 25-26 have been canceled without prejudice or disclaimer. Entry and consideration of this amendment is earnestly requested in that it does not introduce new matter.

Enclosed with this Amendment is a Declaration under §1.132.

Claim Rejections

Rejections Under 35 U.S.C. § 102/103

- A. Response to rejection of claims 25 and 26 under 35 U.S.C. §102(b) as being anticipated by Sacchetti et al.

In response to the rejection of claims 25 and 26 under 35 U.S.C. 102(b) as being anticipated by European Patent EP0395083 of Sacchetti et al. (“Sacchetti”), Applicants have canceled claims 25 and 26, thereby rendering this Rejection moot. Reconsideration and withdrawal of the Rejection respectfully is requested.

- B. Response to rejection of claims 13-16, 18-24, and 27 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Sacchetti.

In response to the rejection of claims 13-16, 18-24, and 27 under 35 U.S.C. §102(b) as anticipated by or in the alternative, under 35 U.S.C. §103(a) as obvious over Sacchetti, Applicants respectfully submit that the reference does not teach all the elements of the claims as required under §102, and that a *prima facie* case of Obviousness has not been made out by the Examiner.

With respect to the Rejection under §102, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete

detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The way in which the elements are arranged or combined in the claim must be disclosed, either expressly or inherently, in an anticipatory reference. *Therasense, Inc. v. Becton, Dickinson and Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010) (citations omitted)

With respect to a Rejection under § 103, “a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success.” (emphasis added) *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Neither is present in the current Rejection.

Current claim 13 is directed to an adduct comprising MgCl_2 , ethanol and a Lewis base (LB) different from water, said adduct further comprising a fusion enthalpy lower than 100 J/g, and formula $\text{MgCl}_2 \bullet (\text{EtOH})_n (\text{LB})_p$, wherein n is from 2 to 6 and p is $0 < p/(n+p) \leq 0.1$, where the Lewis base is selected from ethers, esters, compounds of formula RX_m , and combinations thereof, wherein RX_m is selected from the group consisting of methanol, propanol, isopropanol, n-butanol, sec-butanol, tert-butanol, pentanol, 2-methyl-1-pentanol, 2-ethyl-1-hexanol, phenol, 4-methyl-1-phenol, 2,6-dimethyl-1-phenol, cyclohexanol, cyclopentanol, ethylene glycol, propylene glycol, 1,4-butanediol, glycerine, mannitol, polyvinyl-alcohol, acetonitrile, ethylenediamine, 3-picoline, triethanolamine, triethylamine, and diisopropylamine.

The claimed adduct thus comprises: (1) ethanol having subscript n; (2) a Lewis Base that is not ethanol, having a coefficient p, such that the values of p and n fall within the claimed range; and (3) a particularly claimed fusion enthalpy.

In contrast, Sacchetti do not disclose particular mixtures of alcohols in its adducts. Sacchetti do not particularly disclose mixtures of ethanol and other alcohols in its adducts, and Sacchetti certainly do not disclose adducts having mixtures of ethanol and another alcohol, where the respective subscripts of n and p are in the claimed range. In fact, all of Sacchetti’s working examples disclose adducts containing only ethanol. Sacchetti’s MgCl_2 /alcohol adducts follow the method of example 2 of U.S. 4,399,054, which recites:

28.4 g of anhydrous MgCl_2 and 49.5 of anhydrous ethanol, 100 ml of Vaseline oil ROL OB/30 and 100 ml of silicone oil (viscosity 350 cs) were introduced, under an inert atmosphere, into a flask immersed in a heat

stabilized bath at 120° C. and under stirring until the MgCl_2 was completely dissolved. Thereby there was formed the MgCl_2 adduct with ethanol in admixture with the oils. The hot mixture was then transferred, still under an inert atmosphere, to a 1,500 ml vessel provided with a heating jacket, and containing 150 ml of Vaseline oil and 150 ml of silicone oil. This mixture was maintained at 120° C. and kept under stirring by means of a stirrer of the Ultra Turrax T-45 N type produced by Janke & Kunkel K. G. Ika Werke. The mixture was stirred for 3 minutes at 10,000 rpm. Thereupon, the mixture was discharged into a 2 liter vessel containing 1,000 ml of anhydrous n-heptane which was kept under stirring and cooled so that the final temperature did not exceed 0° C. (col. 8, lines 39-57)

Clearly, only Mg and ethanol are present in the adducts of Sacchetti's working examples, i.e., LB is missing.

Fusion Enthalpy

The Examiner has acknowledged that Sacchetti do not teach the fusion enthalpy lower than 100 J/g. The Examiner nevertheless reads this teaching into Sacchetti by assuming that the limitation is inherent. The Examiner argues that Sacchetti contains the same components, MgCl_2 and an alcohol. However, as discussed above, Sacchetti do not contain the same components. Moreover, while Sacchetti do not disclose fusion enthalpy, Applicants note that comparative example 1 using only EtOH, is comparable to the teaching of Sacchetti. Comparative example 1 shows that an adduct not containing the LB has a higher fusion enthalpy and generates a catalyst with inferior performances. Sacchetti's adducts and those of the present claims are clearly different.

Thus, there is no basis for the Examiner's assumption of inherency, since as shown above, the Examiner has not demonstrated that the examples are substantially identical, so that the standard of inherency applied by the Examiner in this case is one of "could be." However, inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *Scaltech Inc. v. Retec/Tetra L.L.C.*, 156 F.3d 1193, 51 USPQ2d 1055 (Fed. Cir. 1999); *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999)

Indeed, the MPEP outlines a high standard for inherency:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.’ Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (MPEP 2112(IV), emphasis added)

Therefore, because there is no proper basis for an assumption of inherency, the Rejection should be withdrawn for that reason alone.

However, even if the fusion enthalpy were inherent, the Examiner has not offered any reason why one skilled in the art would formulate an adduct containing ethanol and the recited Lewis Base in the particularly claimed ratios, and having the particularly claimed fusion enthalpy. A proper analysis under 35 U.S.C. §103 requires showing that “there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) “We must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention.” *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008). In this case, the Examiner has clearly not provided a reason as to why the ordinary artisan would have formulated an adduct simultaneously having all of the claimed features, based on the cited reference.

Therefore, for all the reasons above, Applicants respectfully submit that a *prima facie* case of Obviousness has not been made out by the Examiner.

Unexpected Results

As discussed above, a *prima facie* case of Obviousness has not been made out by the Examiner. However, even if a *prima facie* case of Obviousness had been made out, Applicants respectfully submit that as discussed in the attached Declaration under §1.132 by Dr. Gianni Collina, the current specification sets forth unexpected results to overcome such a case. One

skilled in the art would readily understand that Comparative Example 1 of the present specification is representative of Sacchetti's adducts because it is made according to the same synthetic procedure described in Sacchetti and was obtained with a composition falling within Sacchetti's preferred range. The claimed adducts containing both ethanol and a Lewis Base in the claimed amounts demonstrate superior performance over an adduct only containing a single alcohol like ethanol. The catalyst produced with the adduct of Example 1 demonstrates an activity that is 15% higher than that of the catalyst produced with the adduct of Comparative Example 1, along with an improved bulk density. These results are unexpected because any specific teaching or suggestion about the use of such adducts, and the improved performance of the catalyst resulting from the claimed adduct is missing in Sacchetti. In light of Sacchetti, it would be unexpected that a small amount of an additional Lewis Base in the adduct could produce so remarkable an effect on the catalyst performance.

Reconsideration and withdrawal of the Rejection respectively is respectfully requested.

Therefore, Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have questions or comments regarding this application or this Amendment, Applicants' attorney would welcome the opportunity to discuss the case with the Examiner.

The Commissioner is hereby authorized to charge U.S. PTO Deposit Account 50-4380 in the amount of any fee required for consideration of this Amendment.

Respectfully submitted,

/William R. Reid/
William R. Reid
Registration No. 47,894
Attorney for Applicants

I hereby certify that this correspondence is being transmitted via the U.S. Patent and Trademark Office electronic filing system (EFS-Web) to the USPTO on July 11, 2011.

/Nancy Grimm/
Nancy Grimm, July 11, 2011

Dilworth IP, LLC
2 Corporate Drive, Suite 206
Trumbull, CT 06611
Attorney's Telephone No.: (203) 220-8496
Attorney's Fax No.: (203) 220-8497
Attorney's E-mail: wreid@dilworthIP.com

124-189USFE6159

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: **Gianni Collina et al.**)
)
Serial No.: **10/584,004**)
)
Filed: **August 1, 2008**) Examiner: **Sonya Wright**
)
)
For: **MAGNESIUM DICHLORIDE-ETHANOL**)
 ADDUCTS AND CATALYST COMPONENTS)
 OBTAINED THEREFROM) Group Art Unit: **1762**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 CFR § 1.132

I, Gianni Collina, do hereby declare that:

1. I am Gianni Collina.
2. In **1986** I received the degree of Industrial Chemistry from the Faculty of Industrial Chemistry of the University of Bologna, in Italy.
3. Since **1988** I have been continuously employed by Montell Italia SpA (now Basell Poliolefine Italia srl) or its predecessors and in connection with such employment have been particularly involved in research activity in the field of polyolefin industry, particularly devoted

to the study of catalyst components for olefin polymerization.

4. I am a co-inventor in more than 30 patents/patent applications in the field of polyolefins and catalysts and processes for their preparation and I have been co-author of about 20 publications relating the same.

5. I am familiar with the above-identified U.S. Patent Application Serial No. 10/584,004 (“Present Application”) entitled Magnesium Dichloride-Ethanol Adducts And Catalyst Components Obtained Therefrom, and that I am familiar with the disclosure and claims of the Present Application.

6. I am familiar with the disclosure of European Patent Application EP 0395083 of Sacchetti et al. (“Sacchetti”), cited by the Examiner in the prosecution of the Present Application before the United States Patent and Trademark Office.

7. One skilled in the art would readily understand that all of Sacchetti’s working examples illustrate adducts containing only a single alcohol, which is ethanol.

8. One skilled in the art would readily understand that while Sacchetti’s disclosure teaches that its adducts may include a mixture of alcohols, it does not teach any particular combination of alcohols, or that any particular combination of alcohols is preferred.

9. One skilled in the art would readily understand that Sacchetti’s disclosure does not particularly teach the combination of ethanol and a second, different alcohol used in combination, in its adducts.

10. One skilled in the art would readily understand that Sacchetti’s disclosure does not teach any relative percentages for mixtures of alcohols contained in its adducts.

11. One skilled in the art would readily understand that Sacchetti's disclosure does not teach an adduct containing ethanol and a second, different alcohol, where ethanol is present in an amount greater than the second alcohol.

12. One skilled in the art would readily understand that Comparative Example 1 of the Present Application is representative of Sacchetti's adducts because it is made according to the same synthetic procedure therein described and it has been obtained with a composition falling within the Sacchetti's preferred range.

13. In view of Sacchetti, one skilled in the art would have prepared the adduct of Comparative Example 1, rather than Example 1 of the Present Application because it is the only and preferred embodiment specifically described in the reference.

14. The adducts claimed in the Present Application, containing both ethanol and a Lewis Base in the claimed amounts, demonstrate superior performance over an adduct only containing a single alcohol like ethanol, as demonstrated by Example 1 and Comparative Example 1 of the Present Application, where the catalyst produced with the claimed adduct of Example 1 demonstrates an activity that is 15% higher than that of the catalyst produced from the adduct of Comparative Example 1, along with an improved bulk density. These results are unexpected because any specific teaching or suggestion about the use of such adducts and the performance of the derived catalysts is missing in Sacchetti. In particular, by the reading of Sacchetti it would not be possible to learn that a small amount of an additional Lewis Base in the adduct could produce so remarkable an effect on the catalyst performances.

15. I further declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true, having been informed that wilful false statements and the like are punishable by fine or imprisonment, or both under 18 U.S.C. § 1001, and may jeopardize the validity of the application or any patent issuing thereon.

July 7th 2014
Date

Gianni Collina
Dr. Gianni Collina